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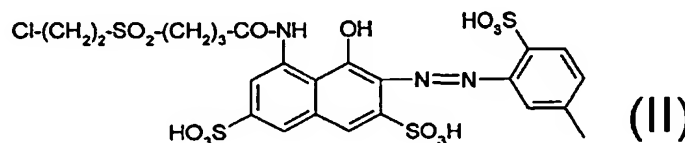
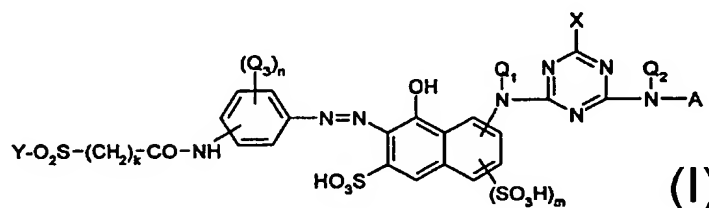
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(54) Title: FIBRE-REACTIVE AZO DYES, THEIR PREPARATION AND THEIR USE



(57) Abstract: Reactive dyes of formula (I), wherein A is the radical of a monoazo, polyazo, metal complex azo, anthraquinone, phthalocyanine, formazan or dioxazine chromophore, Q₁ and Q₂ are each independently of the other hydrogen or unsubstituted or substituted C₁-C₄alkyl, (Q₃)_n denotes n substituents selected from the group C₁-C₄alkyl, C₁-C₄alkoxy, halogen and sulfo, X is halogen, 3-carboxypyridin-1-yl, 3-carbamoylpyridin-1-yl, hydroxy, C₁-C₄alkoxy unsubstituted or substituted in the alkyl moiety, phenoxy unsubstituted or substituted in the phenyl moiety, C₁-C₄alkylthio unsubstituted or substituted in the alkyl moiety, unsubstituted or substituted amino, or an N-heterocycle which may or may not contain further hetero atoms, Y is vinyl or a radical -CH₂-CH₂-U and U is a group removable under alkaline conditions, k is a number 2, 3, 4, 5 or 6, m is a number 0 or 1, and n is a number 0, 1 or 2, with the proviso that when A denotes a monoazo chromophore it is not directly linked to the triazinyl radical through a hydroxynaphthalenesulfonic acid coupling component and does not denote a radical of formula (II), are suitable for dyeing cellulosic or nitrogen-containing fibre materials.

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According to International Patent Classification (IPC) or to both national classification and IPC

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Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C09B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 097 971 A (CIBA SC HOLDING AG) 9 May 2001 (2001-05-09) claims 1,3,4,6-12; examples 30-77,100,101	1-15
A	GB 1 155 149 A (CASSELLA FARBWERKE MAINKUR AG.) 18 June 1969 (1969-06-18) cited in the application claims; examples	1-15
A	US 5 484 899 A (DEITZ ROLF ET AL) 16 January 1996 (1996-01-16) claims; examples	1-15

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 1097971	A	09-05-2001	EP 1097971 A1	09-05-2001
			EP 1312651 A2	21-05-2003
			DE 50002976 D1	28-08-2003
			JP 2001172517 A	26-06-2001
			US 6323327 B1	27-11-2001
			US 6392021 B1	21-05-2002
GB 1155149	A	18-06-1969	BE 705839 A	30-04-1968
			CH 498186 A	31-10-1970
			CH 490466 A	15-05-1970
			DE 1644087 A1	01-07-1971
			FR 1552031 A	03-01-1969
			NL 6714218 A	06-05-1968
US 5484899	A	16-01-1996	CN 1103416 A , B	07-06-1995
			DE 59403353 D1	21-08-1997
			EP 0623655 A1	09-11-1994
			ES 2106484 T3	01-11-1997
			HK 1000827 A1	01-05-1998
			JP 2914869 B2	05-07-1999
			JP 7003176 A	06-01-1995
			SG 49634 A1	18-07-2000

Form PCT/ISA/210 (patent family annex) (July 1992)

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